THE OHIO JOURNAL OF SCIENCE

VOLUME 67—1967

JANE L. FORSYTH Editor-in-Chief

PUBLISHED AT COLUMBUS, OHIO, BY

THE OHIO STATE UNIVERSITY

and

THE OHIO ACADEMY OF SCIENCE

THE OHIO JOURNAL OF SCIENCE

JOINT ADMINISTRATIVE BOARD

For The Ohio State University	For the Ohio Academy of Science
Earle R. Caley	Charles A. Randall
Carroll A. Swanson	William A. Rice

JOURNAL STAFF

Jane L. Forsyth ..... Editor-in-Chief
David H. Stansbery ..... Secretary-Treasurer
Emanuel D. Rudolph ..... Book Review Editor

THE OHIO JOURNAL OF SCIENCE
Is published jointly by The Ohio State University and
The Ohio Academy of Science

CONTENTS OF VOLUME 67

NUMBER 1—JANUARY

Notes on Programed Instruction and Its Application in a Natural Science Course for Freshmen Students. *Lincoln Pettit* 1
The Role of Fur in Heat Regulation in the Guinea Pig *Richard D. Gilchrist and Charles G. Wilber* 8
The Chromosome Morphology in the Genus *Silphium* (*Compositae*). *Wilbur Jewell Settle* 10
Spinulana, New Genus of Mexican Deltocephalinae, and Two New Species of *Spinulana* (Homoptera: Cicadellidae). *Dwight M. DeLong* 20
Devolana, New Genus of Mexican Deltocephalinae, and a New Species of *Devolana* (Homoptera: Cicadellidae). *Dwight M. DeLong* 22
Effects of Progesterone Treatments on Delayed Implantation in Mink. *Larry C. Holcomb* 24
Some Plankton Diatoms from the Detroit River and the Western End of Lake Erie Adjacent to the Detroit River. *Daniel E. Wujek* 32
Ultraviolet Spectrophotometric Determination of Zirconium with *p*-Chloro- or *p*-Bromomandelic Acid. *Joseph J. Klingenberg and J. Michael Ernst* 35
Notes on the Species of *Megasida* Casey from the United States States (Coleoptera: Tenebrionidae). *Charles A. Triplehorn* 38
A Sound-Activated Method for Recording Insect Activity *James L. Frazier and Frank W. Fisk* 42
An Observation of Swimming by the Grasshopper Mouse. *David G. Ruffer* 45
High Mortality of a Population of Cowbirds Wintering at Columbus, Ohio *Francis Kessler, Maurice L. Giltz, and Harold E. Burtt* 46
Description of *Diplocardia macDowelli*, a New Megascolecid Earthworm from Mississippi (Oligochaeta). *W. R. Murchie* 50
Some Pore Fungi of the University of Cincinnati Center Hill Life Science Field Station *Rev. Paul Sanders* 53
Enteric Protozoa of Some Amphibians of the Elk Mountains, Colorado. *Eric Panitz* 55
Book Reviews. 19, 23, 31, 37, 45, 56, 57–62
A List of Reviewers of Papers Appearing in The Ohio Journal of Science during 1966. 63

NUMBER 2—MARCH

Geologic Aspects of a Recent Landslide in Vinton County, Ohio *David K. Webb, Jr. and Horace R. Collins* 65
Reactions Between P_b^{2+} and ($I^- + I_3^-$) in Acidic Silica Gels. *Philip F. Kurz* 74
The Castalia Prairie. *Paul B. Sears* 78
New Cave Pseudoscorpions of the Genus *Apochthonius* (Arachnida: Chelonethida) *William B. Muchmore* 89
Pollen Stratigraphy and Age of an Early Postglacial Beaver Site Near Columbus, Ohio *Gail C. Garrison* 96
Studies of the Gyponinae: Two New Genera *Chilenana* and *Chilella* (Homoptera: Cicadellidae). *Dwight M. DeLong and Paul H. Freytag* 105
Earth Science in Ohio's Secondary Schools. *Ray Skinner, Jr.* 113
Influence of Salinity and Temperature on Seed Germination. *Irwin A. Ungar* 120
A Life History Study of the Ash Seed Weevils, *Thysanocnemis bischoffi* Blatchley and *T. helvola* Leconte (Coleoptera: Curculionidae) *Jack H. Bargar and Ralph H. Davidson* 123
Book Reviews. 88, 127, 128

NUMBER 3—MAY

The Propinquus Group of the Crawfish Genus *Orconectes* (Decapoda: Astacidae) *J. F. Fitzpatrick, Jr.* 129
Conversion Yields of Some Photographic Emulsions and Related Factors *Radames K. H. Gebel and Gary L. Duke* 173
A New Species of *Draeculacephala* (Homoptera-Cicadellidae) from Chile *Dwight M. DeLong* 184
Records of Ohio Fleas (Siphonaptera). *J. G. Humphreys* 186
A Test for Penicillins on Chromatograms and in Spot Tests *Margaret Goldman and Richard A. Day* 190
Rare Birds at Lake Saint Marys, Ohio. *James P. Sipe* 191
Book Reviews. 183, 185, 191, 192

NUMBER 4—JULY

The Interdependence of Chemical Purity and Scientific Advancement . . . *E. Oscar Woolfolk* 193
Seasonal and Daily Chirping Cycles in the Northern Spring and Fall Field Crickets, *Gryllus veletis* and *G. pennsylvanicus* . . . . . *Richard D. Alexander and Gerald H. Meral* 200
The First Appearance in Ohio of the Theory of Continental Glaciation . . . *George W. White* 210
Two New Species of Water Mites from Ohio . . . . . *David R. Cook* 218
New Records of Water Mites from Ohio . . . . . *Andrew A. Weaver* 222
Effect of Light and Carbon Dioxide on the Loss of Manganese from *Chlorella* Cells *Clyde Fyster and Marjorie Nix Woodruff* 224
Remarkable Sympatry in the Winter Stoneflies *Allocapnia indianae* and *A. ohioensis*, a Pair of Sister Species . . . . . *Herbert H. Ross and Paul H. Freytag* 228
The Occurrence of the Coral Genera *Pseudozaphrentoides* and *Lophamplexus* in the Pennsylvanian of Ohio . . . . . *Calvin T. Colson* 232
The Adsorption of a Cationic Surfactant on TiO_2 from Aqueous Solutions . . . *Gerald Corsaro* 237
A Study of Two Plumage Aberrations in the Male Redwinged Blackbird (*Agelaius phoeniceus*) . . . . . *Robert Schodorf* 240
Spatial and Energy Requirements of Beavers . . . . . *Fred J. Brenner* 242
The Ohio Academy of Science 1967–68 Officers 247
Necrology 249
Book Reviews 217, 246, 254, 255
Preparation of Manuscripts for Publication in The Ohio Journal of Science 256

NUMBER 5—SEPTEMBER

Georgraphic Aspects of the Agriculture of Santa Catarina State, Brazil . . . . . *Allen G. Noble* 257
Spatial and Seasonal Distribution of Planktonic Cladocera in a Small Reservoir *Robert W. Winner and James F. Haney* 274
A Computer Program to Calculate Expected Frequencies and to Estimate Per cent Recombination in a Dihybrid F_2 With Linkage in the Coupling Phase and Various Types of Lethal Inheritance . . . . . *Russell V. Skavaril and Elton F. Paddock* 289
A Devonian Brachiopod With Epifauna . . . . . *R. D. Hoare and D. L. Steller* 291
Tegmen Roof of *Plaxocrinus mooresi* (Whitfield) . . . . . *J. J. Burke* 298
An Autoradiographic Study of Invertebrate Uptake of DDT–CL^{36} . . . . . *Edward J. Webster* 300
A Review of the Effects of Plant Estrogenic Substances on Animal Reproduction *David E. Samuel* 308
Oviposition Behavior in Two Species of Dragonflies . . . . . *Allen M. Young* 313
The Barn Owl as a Red-Winged Blackbird Predator in Northwestern Ohio *Michael L. Carpenter and Michael W. Fall* 317
Book Reviews 290, 297, 307, 312, 316, 318, 319, 320

NUMBER 6—NOVEMBER

Biology of the Freshwater Drum in Western Lake Erie . . . . . *Thomas A. Edsall* 321
Relationships of Lower Silurian Strata in Ohio, West Virginia, and Northern Kentucky *Allan L. Horvath* 341
Gravity Survey of the Serpent Mound Area, Southern Ohio *C. Bull, C. E. Corbató, and J. C. Zahn* 359
Concern for the History of Science at Meetings of The Ohio Academy of Science, 1891–1966, with an Analysis of the Papers . . . . . *Ralph W. Dexter* 372
Anomalous Drainage Pattern and Crustal Tilting in Ottawa County and Vicinity, Ohio *Dale R. Sparling* 378
Radio-Tracing a White-Tailed Deer . . . . . *Terry A. Balding* 382
Book Reviews 340, 384, 385, 386